

LOGO! Product Information for LOGO! System Manual in 06/2023 edition




Product Information

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Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

 DANGER
indicates that death or severe personal injury will result if proper precautions are not taken.
 WARNING
indicates that death or severe personal injury may result if proper precautions are not taken.
 CAUTION
indicates that minor personal injury can result if proper precautions are not taken.
NOTICE
indicates that property damage can result if proper precautions are not taken.


If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

 WARNING
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens Aktiengesellschaft. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Introduction

This product information describes revision and supplements to the LOGO! System Manual (A5E33039675-AL) in edition 06/2023:

- Revision of certification and approvals
- Supplement of LOGO! devices secure decommissioning
- Revision of LOGO! BM technical data
- Revision of LOGO! power modules order number

You can find LOGO! System Manual (A5E33039675-AL) in edition 06/2023 on Siemens Industry Online Support (<https://support.industry.siemens.com/cs/us/en/view/109826499>).

This product information applies to the following LOGO! devices:

Variant	Designation	Order number
LOGO! Basic (Base Module with display)	LOGO! 12/24RCE * LOGO! 24CE * LOGO! 24RCE (AC/DC) LOGO! 230RCE (AC/DC)	6ED1052-1MD08-0BA2 6ED1052-1CC08-0BA2 6ED1052-1HB08-0BA2 6ED1052-1FB08-0BA2
LOGO! Pure (Base Module without display)	LOGO! 12/24RCEo * LOGO! 24CEo * LOGO! 24RCEo (AC/DC) LOGO! 230RCEo (AC/DC)	6ED1052-2MD08-0BA2 6ED1052-2CC08-0BA2 6ED1052-2HB08-0BA2 6ED1052-2FB08-0BA2
Digital modules	LOGO! DM8 12/24R LOGO! DM8 24 LOGO! DM8 24R LOGO! DM8 230R LOGO! DM16 24 LOGO! DM16 24R LOGO! DM16 230R	6ED1055-1MB00-0BA2 6ED1055-1CB00-0BA2 6ED1055-1HB00-0BA2 6ED1055-1FB00-0BA2 6ED1055-1CB10-0BA2 6ED1055-1NB10-0BA2 6ED1055-1FB10-0BA2
Analog modules	LOGO! AM2 LOGO! AM2 RTD LOGO! AM2 AQ (0...10V, 0/4...20mA)	6ED1055-1MA00-0BA2 6ED1055-1MD00-0BA2 6ED1055-1MM00-0BA2
Text Display module with Ethernet interfaces	LOGO! TDE	6ED1055-4MH08-0BA1

*: Also with analog inputs

Certification and approvals

Certification and approvals

LOGO! is certified to cULus and cFMus.

- cULus Haz. and ordinary Loc.
Underwriters Laboratories Inc. (UL) to
 - UL 508 (Industrial Control Equipment)
 - CSA C22.2 No. 142 (Process Control Equipment)
 - UL 121201 (Hazardous Location)
 - CSA C22.2 No.213 (Hazardous Location)
 APPROVED for use in
Class I, Division 2, Group A, B, C, D T4
Class I, Zone 2, Group IIC Tx
- FM Approval (US Approval and Canada Approval)
Factory Mutual Research (FM) to
 - Approval Standard Class Number 3611, 3600, 3810
 - ANSI/UL 61010-1
 - ANSI/UL 121201
 - ANSI/IEC60529
 - ANSI/NEMA 250
 - CSN/CSA-C22.2 No. 213
 - CAN/CSA-C22.2 No. 61010-1
 - CAN/CSA-C22.2 No.94
 APPROVED for use in
 - Class I, Division 2, Group A, B, C, D Tx
 - Class I, Zone 2, Group IIC Tx

WARNING

Substitution of components can impair the suitability for Class I, Division 2 and Zone 2.

Repair of units must be done by an authorized Siemens Service Center.

Note

You will find current approvals on the rating plate of the relevant module.

LOGO! is issued with the CE Certificate of Conformity. It is compliant with following standards:

- EN 61131-2
- EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
- EN IEC 63000

Marine certificate of approval:

- ABS (American Bureau of Shipping)
- BV (Bureau Veritas)
- DNV-GL (Det Norske Veritas (Norwegen)-Germanischer Lloyd)
- LRS (Lloyds Register of Shipping)
- Class NK (Nippon Kaiji Kyokai)
- CCS (CHINA CLASSIFICATION SOCIETY)
- KR (KOREAN REGISTER)

ID for Australia



Our products carrying the label shown at the side are compliant with AS/NZS 61000.6.4, AS/NZS 61000.6.3 standard.

ID for Korea



Our products (except the LOGO! CSM modules) carrying the label shown at the side are compliant with Korean standards.

WEEE label (European Union)



Disposal instructions, observe the local regulations and below Recycling and Disposal.

Recycling and disposal

You can fully recycle LOGO! devices due to their low-pollutant equipment. For environmentally friendly recycling and disposal of your old equipment, contact a certified electronic waste disposal company and dispose of the equipment according to the applicable regulations in your country.

UK Conformity Assessed marking



The device complies with the designated British standards (BS) for programmable logic controllers published in the official consolidated list of the British Government. The device meets the requirements and protection targets of the following regulations and related amendments:

- Electrical Equipment (Safety) Regulations 2016 (Low-Voltage)
- Electromagnetic Compatibility Regulations 2016 (EMC)
- Regulations on the restriction of the use of certain hazardous substances in electrical and electronic equipment 2012 (RoHS).

UK Declarations of Conformity for the respective authorities are available from:

Siemens AG
Digital Industries
Factory Automation
DI FA TI COS TT
P.O. Box 1963
D-92209 Amberg

The UK Declaration of Conformity is also available for download from the Siemens Industry Online Support website under the keyword "Declaration of Conformity".



Approval Standard Class Number 3611, 3600, 3810 Factory Mutual Research (FM) in accordance with

Approval Standard Class Number 3611, 3600, 3810

ANSI/UL61010-1, ANSI/UL 121201

CAN/CSA-C22.2 No. 0-10

CSA C22.2 No. 213

CAN/CSA-C22.2 No. 61010-1

APPROVED for use in Class I, Division 2, Group A, B, C, D T4;

Class I, Zone 2, Group IIC Tx

Installation Instructions for FM

- **WARNING** – Explosion Hazard – Do not disconnect while circuit is live unless area is known to be non-hazardous.
- **WARNING** - Explosion Hazard - Substitution of components may impair suitability for Class I, Division 2 or Zone 2.
- This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D; Class I, Zone 2, Group IIC; or non-hazardous locations.

LOGO! modules are therefore suitable for use in industrial and residential areas. Use in Class I, Division 2, Group A, B, C and D locations or in non-hazardous locations is supported.

Identification for Eurasian Customs Union

- EAC (Eurasian Conformity)
- Customs union of Russia, Belarus and Kazakhstan
- Declaration of conformity according to Technical Regulations of the Customs Union (TR CU)

CCCEX approval



The following approvals according to the following standards are valid for a device with the "CCC" marking.

- Standards:
 - GB/T 3836.1-2021 (Explosive atmospheres - Part 1: Equipment - General requirements)
 - GB/T 3836.3-2021 (Explosive atmospheres - Part 3: Equipment protection by increased safety "e")
 - GB/T 3836.8-2021 (Explosive atmospheres - Part 8: Equipment protection by type of protection "n")
- Approvals:
 - Ex ec nC IIC T4 Gc (module with relay outputs)
 - Ex ec IIC T4 Gc
 - -20 °C to +55 °C

Special conditions for safe operation of the devices

- The equipment shall only be used in an area of not more than pollution degree 2, as defined in GB/T 16935.1.
- The equipment shall be installed in an enclosure that provides a minimum ingress protection of IP 54 in accordance with GB/T 3836.1, and accessible only by use of a tool.
- Transient protection shall be provided that is set at a level not exceeding 140% of the peak rated voltage value at the supply terminals to the equipment.
- Antenna shall be installed within the end use enclosure. Routing and remote installation (not evaluated as part of this certification) of the antenna shall be in accordance with the appropriate location regulations when installed in unclassified and/or zone 2 Hazardous Locations.

Secure decommissioning

In this section, you will find information on how to properly decommission individual components of your automation system. Decommissioning is necessary when the component has reached the end of its service life.

Decommissioning includes environmentally sound disposal and secure removal of all digital data of electronic components with storage medium.

3.1 Securely removing data

Before disposing of components of your automation system, you should securely delete all data from the storage media of these components. How to securely delete data from the devices so that it cannot be recovered is described below.

NOTICE

Data misuse resulting from non-secure deletion of data

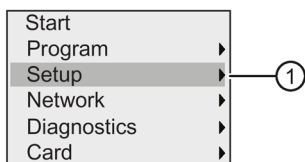
Incomplete or non-secure deletion of data from data memories can result in data misuse by third parties.

For this reason, ensure secure deletion of data from all storage media used before disposing of the product.

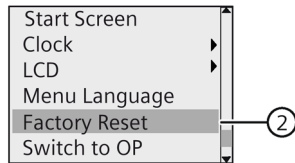
To delete all data from the data memories of LOGO! device, reset the device to factory setting. The function deletes all information that was saved internally on the module. You can take the following three methods to reset your LOGO! device to factory setting.

Factory reset by LOGO! BM/TDE menu command

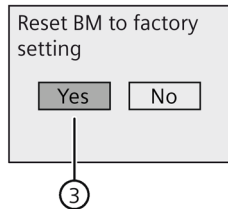
1. Switch the LOGO! to programming mode. LOGO! opens the main menu:
2. Press ▲ or ▼ to move the cursor to ①, then press **OK**. LOGO! open the programming menu.



3. Move the cursor to ②, then press **OK**.



4. Move the cursor to ③, then press **OK** to confirm factory reset operation.



Factory reset by LOGO!Soft Comfort

Use menu command in LOGO!Soft Comfort: Tools -> Transfer -> Factory Reset LOGO!. For detailed operation, refer to the section: *Tools -> Transfer -> Factory Reset LOGO! (LOGO! 8.FS4 and later versions only)* in LOGO!Soft Comfort Online Help.

Factory reset by reset file

1. Copy _reset.bm file in the DVD-ROM into the root directory of an SD card.
2. Insert the SD card into the LOGO! BM.
3. Power on the LOGO! BM to execute factory reset. After the BM is reset to factory setting, _reset.bm file in the SD card is deleted automatically.

Note

The _reset.bm file can only be used to reset factory setting for LOGO! BM 8.3 and later versions.

3.2 Recycling and disposal

You can fully recycle LOGO! devices due to their low-pollutant equipment. For environmentally friendly recycling and disposal of your old equipment, contact a certified electronic waste disposal company and dispose of the equipment according to the applicable regulations in your country.

Technical data

4.1 General technical data

Criterion	Tested in accordance with	Values
LOGO! Base Modules (0BA8) LOGO! Basic Dimensions (WxHxD) Weight <ul style="list-style-type: none"> Modules with relay output Modules with transistor output Installation		71.5 x 90 x 60 mm Approx. 240 g Approx. 195 g On a 35 mm profile rail four module widths or wall mounting
LOGO! Pure Dimensions (WxHxD) Weight <ul style="list-style-type: none"> Modules with relay output Modules with transistor output Installation		71.5 x 90 x 58 mm Approx. 200 g Approx. 160 g On a 35 mm profile rail four module widths or wall mounting
LOGO! expansion modules DM16... Dimensions (WxHxD) Weight <ul style="list-style-type: none"> Modules with relay output Modules with transistor output Installation		71.5 x 90 x 58 mm Approx. 225 g Approx. 165 g On a 35 mm profile rail four module widths or wall mounting
LOGO! expansion modules DM8... Dimensions (WxHxD) Weight <ul style="list-style-type: none"> Modules with relay output Modules with transistor output Installation		35.5 x 90 x 58 mm Approx. 130 g Approx. 95 g On a 35 mm profile rail two module widths or wall mounting
LOGO! expansion modules AM... Dimensions (WxHxD) Weight Installation		35.5 x 90 x 58 mm Approx. 95 g On a 35 mm profile rail two module widths or wall mounting
LOGO! TDE (Text Display with Ethernet interfaces) Dimensions (WxHxD) Weight Installation		128.2 x 86 x 38.7 mm Approx. 220 g Bracket mounting

4.1 General technical data

Criterion	Tested in accordance with	Values
Climatic conditions		
Ambient temperature for BM and EM <ul style="list-style-type: none"> Horizontal installation Vertical installation 	Low temperature to IEC 60068-2-1 High temperature to IEC 60068-2-2	<ul style="list-style-type: none"> -20 °C to +55 °C ¹⁾ -20 °C to +55 °C
Ambient temperature for TDE <ul style="list-style-type: none"> Horizontal installation Vertical installation 	Low temperature to IEC 60068-2-1 High temperature to IEC 60068-2-2	<ul style="list-style-type: none"> -20 °C to +55 °C ¹⁾ -20 °C to +55 °C
Storage and Transport		- 40 °C to +70 °C
Relative humidity	IEC 60068-2-30	From 10% to 95% no condensation
Atmospheric pressure, Altitude <ul style="list-style-type: none"> Operation Storage/transport 		<ul style="list-style-type: none"> 1080 to 795 hPa, corresponds to an elevation of -1000 m to 2000 m 1080 to 660 hPa, corresponds to an elevation of -1000 m to 3500 m
Altitude during operation		Up to 2000 m
Pollutants	IEC 60068-2-42 IEC 60068-2-43	SO ₂ 10 cm ³ /m ³ , 21 days H ₂ S 1 cm ³ /m ³ , 21 days
Pollution degree		2
Ambient mechanical conditions		
Degree of protection		<ul style="list-style-type: none"> IP20 for LOGO! Base Modules, expansion modules, and the LOGO! TDE excluding the TDE front panel IP65 for LOGO! TDE front panel
Enclosure type		<ul style="list-style-type: none"> Type 1 for the front panel of LOGO! Base Modules and expansion modules Type 4X/12 for LOGO! TDE front panel
Vibrations:	IEC 60068-2-6	5 Hz to 8.4 Hz (constant amplitude 3.5 mm) 8.4 Hz to 200 Hz (constant acceleration 1 g)
Shock	IEC 60068-2-27	half-sine wave 15 g/11 ms
Free fall (packaged)	IEC 60068-2-32	0.3 m
Electromagnetic compatibility (EMC)		
Radiated emission	EN 61000-6-3 EN 61000-6-4	Limit class B group 1 Limit class B
Electrostatic discharge	IEC 61000-4-2	±2 kV, ±4kV, ±8 kV air discharge ±6 kV contact discharge
Radiated electromagnetic field	IEC 61000-4-3	80 MHz-1000 MHz and 1.4 GHz-2.0 GHz 10V/m, 80% AM(1 kHz) 2.0 GHz-6.0 GHz 3V/m, 80% AM(1 kHz)

Criterion	Tested in accordance with	Values
Conducted disturbance	IEC 61000-4-6	150 KHz-80 MHz 10 V, 80%AM(1 kHz)
Fast transient bursts	IEC 61000-4-4	<ul style="list-style-type: none"> For power port: 2 kV For signal port: <ul style="list-style-type: none"> Signal Lines<30 m: 1 kV/5 kHz and 100 kHz Signal Lines>30 m: 2 kV/5 kHz and 100 kHz
Surge immunity (applies only to LOGO! 230 and DM8/16 230R)	IEC 61000-4-5	1 kV line-to-line 2 kV line-to-earth
Surge immunity (applies to low-voltage (12 V or 24 V) LOGO! modules)		With surge arrester (such as BVT AD 24): <ul style="list-style-type: none"> 1 kV line-to-line 2 kV line-to-earth Without surge arrester: <ul style="list-style-type: none"> 0.5 kV line-to-line 1 kV line-to-earth
Safety to IEC		
Clearance and creepage distance rating	IEC 60664, IEC 61131-2, cULus to UL 508, CSA C22.2 No. 142, IEC 60730	Fulfilled
Insulation strength	IEC 61131-2	Fulfilled
Cycle time		
Cycle time per function		< 0.1 ms
Startup		
Startup time at power-up		Typ. 1.6 s
Overvoltage		
Overvoltage category		<ul style="list-style-type: none"> Category II: LOGO! 24CE, LOGO! DM8 24, LOGO! DM16 24, LOGO! AM2, LOGO! AM2 RTD, LOGO! AM2 AQ, LOGO! TDE Category III: LOGO! 12/24RCE, LOGO! 24RCE (AC/DC), LOGO! 230RCE (AC/DC), LOGO! DM8 12/24R, LOGO! DM8 24R, LOGO! DM8 230R, LOGO! DM16 24R, LOGO! DM16 230R

¹⁾ The updating rate of LCD can be reduced at operating temperature less than 0°C.

Note

The maximum length for directly connecting two LOGO! Base Modules through CAT5e shielded network cable is 100 meters.

4.2 Technical data: LOGO! 230...

	LOGO! 230RCEo	LOGO! 230RCE
Power supply		
Input voltage	115 VAC/VDC to 240 VAC/VDC	115 VAC/VDC to 240 VAC/VDC
Permissible range	85 VAC to 265 VAC 100 VDC to 253 VDC	85 VAC to 265 VAC 100 VDC to 253 VDC
Input frequency	50/60 Hz	50/60 Hz
Permissible mains frequency	47 Hz to 63 Hz	47 Hz to 63 Hz
Power consumption		
<ul style="list-style-type: none"> • 115 VAC • 240 VAC • 115 VDC • 240 VDC 	<ul style="list-style-type: none"> • 20 mA to 40 mA • 15 mA to 25 mA • 10 mA to 20 mA • 5 mA to 15 mA 	<ul style="list-style-type: none"> • 20 mA to 40 mA • 15 mA to 25 mA • 10 mA to 20 mA • 5 mA to 15 mA
Voltage failure buffering		
<ul style="list-style-type: none"> • 115 VAC/VDC • 240 VAC/VDC 	<ul style="list-style-type: none"> • Typ. 10 ms • Typ. 20 ms 	<ul style="list-style-type: none"> • Typ. 10 ms • Typ. 20 ms
Power loss at		
<ul style="list-style-type: none"> • 115 VAC • 240 VAC • 115 VDC • 240 VDC 	<ul style="list-style-type: none"> • 2.3 W to 4.6 W • 3.6 W to 6.0 W • 1.2 W to 2.3 W • 1.2 W to 3.6 W 	<ul style="list-style-type: none"> • 2.3 W to 4.6 W • 3.6 W to 6.0 W • 1.2 W to 2.3 W • 1.2 W to 3.6 W
Backup of the real-time clock at 25 °C	Typ. 20 days	Typ. 20 days
Accuracy of the real-time clock	Typ. ± 2 s/day	Typ. ± 2 s/day
Digital inputs		
Number	8	8
Electrical isolation	No	No
Number of high speed inputs	0	0
Input frequency		
<ul style="list-style-type: none"> • Normal input • High speed input 	<ul style="list-style-type: none"> • Max. 4 Hz • - - 	<ul style="list-style-type: none"> • Max. 4 Hz • - -
Digital input	115 to 240 VAC/DC, 50/60 Hz	115 to 240 VAC/DC, 50/60 Hz
Max. continuous permissible voltage	265 VAC 253 VDC	265 VAC 253 VDC
Input voltage L1		
<ul style="list-style-type: none"> • Signal 0 • Signal 1 • Signal 0 • Signal 1 	<ul style="list-style-type: none"> • < 40 VAC • > 79 VAC • < 30 VDC • > 79 VDC 	<ul style="list-style-type: none"> • < 40 VAC • > 79 VAC • < 30 VDC • > 79 VDC

	LOGO! 230RCEo	LOGO! 230RCE
Input current at		
• Signal 0	• < 0.05 mA AC	• < 0.05 mA AC
• Signal 1	• > 0.08 mA AC	• > 0.08 mA AC
• Signal 0	• < 0.06 mA DC	• < 0.06 mA DC
• Signal 1	• > 0.13 mA DC	• > 0.13 mA DC
Delay time at 0 to 1:		
• 120 VAC	• Typ. 40 ms	• Typ. 40 ms
• 240 VAC	• Typ. 30 ms	• Typ. 30 ms
• 120 VDC	• Typ. 25 ms	• Typ. 25 ms
• 240 VDC	• Typ. 20 ms	• Typ. 20 ms
Delay time at 1 to 0:		
• 120 VAC	• Typ. 45 ms	• Typ. 45 ms
• 240 VAC	• Typ. 70 ms	• Typ. 70 ms
• 120 VDC	• Typ. 60 ms	• Typ. 60 ms
• 240 VDC	• Typ. 75 ms	• Typ. 75 ms
Line length (unshielded)	max. 100 m	max. 100 m
Digital outputs		
Number	4	4
Output type	Relay outputs	Relay outputs
Electrical isolation	Yes	Yes
In groups of	1	1
Control of a digital input	Yes	Yes
Continuous current I_{th}	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 10 A per relay	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 10 A per relay
Relay rated voltage	240 VAC/VDC	240 VAC/VDC
Surge current Incandescent lamp load (25000 switching cycles) at	Max. 30 A	Max. 30 A
• 230/240 VAC	• 1000 W	• 1000 W
• 115/120 VAC	• 500 W	• 500 W
Fluorescent tubes with ballast (25000 switching cycles)	10 x 58 W (at 230/240 VAC)	10 x 58 W (at 230/240 VAC)
Fluorescent tubes, conventionally compensated (25000 switching cycles)	1 x 58 W (at 230/240 VAC)	1 x 58 W (at 230/240 VAC)
Fluorescent tubes, uncompensated (25000 switching cycles)	10 x 58 W (at 230/240 VAC)	10 x 58 W (at 230/240 VAC)
Short circuit-proof cos 1	Power protection B16, 600 A	Power protection B16, 600 A
Short circuit-proof cos 0.5 to 0.7	Power protection B16, 900 A	Power protection B16, 900 A
Derating	None; across the entire temperature range	None; across the entire temperature range
Parallel output circuits for power increase	Not permitted	Not permitted

4.3 Technical data: LOGO! DM8 230R and LOGO! DM16 230R

	LOGO! 230RCEo	LOGO! 230RCE
Protection of output relay (if desired)	Max. 16 A, characteristic B16	Max. 16 A, characteristic B16
Line length (unshielded)	Max. 100 m	Max. 100 m
Switching rate		
Mechanical	10 Hz	10 Hz
Ohmic load/lamp load	2 Hz	2 Hz
Inductive load	0.5 Hz	0.5 Hz

Notice: For fluorescent lamps with capacitors, you must consider the technical data of fluorescent lamp ballasts. If the current exceeds the maximum allowed surge current, appropriate contactor relays must switch the fluorescent lamps.

Notice: Output: B300, R300; 8A, 24 VDC, G.P.; 10A, 240 VAC, G.P.; 3A, 120 VAC, Tungsten.

The data was determined with the following devices:

- Siemens fluorescent tubes 58 W VVG 5LZ 583 3-1 uncompensated.
- Siemens fluorescent tubes 58 W VVG 5LZ 583 3-1 parallel compensated with 7 µF.
- Siemens fluorescent tubes 58 W VVG 5LZ 501 1-1N with ballast.

4.3 Technical data: LOGO! DM8 230R and LOGO! DM16 230R

	LOGO! DM8 230R	LOGO! DM16 230R
Power supply		
Input voltage	115 VAC/VDC to 240 VAC/VDC	115 VAC/VDC to 240 VAC/VDC
Permissible range	85 VAC to 265 VAC 100 VDC to 253 VDC	85 VAC to 265 VAC 100 VDC to 253 VDC
Input frequency	50/60 Hz	50/60 Hz
Permissible mains frequency	47Hz to 63 Hz	47Hz to 63 Hz
Power consumption	<ul style="list-style-type: none"> • 115 VAC • 240 VAC • 115 VDC • 240 VDC 	<ul style="list-style-type: none"> • 20 mA to 40 mA • 15 mA to 30 mA • 10 mA to 25 mA • 5 mA to 15 mA
Voltage failure buffering	<ul style="list-style-type: none"> • 115 VAC/VDC • 240 VAC/VDC 	<ul style="list-style-type: none"> • Typ. 10 ms • Typ. 20 ms
Power loss at	<ul style="list-style-type: none"> • 115 VAC • 240 VAC • 115 VDC • 240 VDC 	<ul style="list-style-type: none"> • 2.3 W to 4.6 W • 3.6 W to 7.2 W • 1.2 W to 2.9 W • 1.2 W to 3.6 W

4.3 Technical data: LOGO! DM8 230R and LOGO! DM16 230R

	LOGO! DM8 230R	LOGO! DM16 230R
Digital inputs		
Number	4	8
Electrical isolation	No	No
Number of high speed inputs	0	0
Input frequency		
• Normal input	• Max. 4 Hz	• Max. 4 Hz
• High speed input	• --	• --
Digital input	115 to 240 VAC/DC, 50/60 Hz	115 to 240 VAC/DC, 50/60 Hz
Max. continuous permissible voltage	265 VAC 253 VDC	265 VAC 253 VDC
Input voltage L1		
• Signal 0	• < 40 VAC	• < 40 VAC
• Signal 1	• > 79 VAC	• > 79 VAC
• Signal 0	• < 30 VDC	• < 30 VDC
• Signal 1	• > 79 VDC	• > 79 VDC
Input current at		
• Signal 0	• < 0.05 mA AC	• < 0.05 mA AC
• Signal 1	• > 0.08 mA AC	• > 0.08 mA AC
• Signal 0	• < 0.06 mA DC	• < 0.06 mA DC
• Signal 1	• > 0.13 mA DC	• > 0.13 mA DC
Delay time at 0 to 1:		
• 120 VAC	• Typ. 40 ms	• Typ. 40 ms
• 240 VAC	• Typ. 30 ms	• Typ. 30 ms
• 120 VDC	• Typ. 25 ms	• Typ. 25 ms
• 240 VDC	• Typ. 20 ms	• Typ. 20 ms
Delay time at 1 to 0:		
• 120 VAC	• Typ. 45 ms	• Typ. 45 ms
• 240 VAC	• Typ. 70 ms	• Typ. 70 ms
• 120 VDC	• Typ. 60 ms	• Typ. 60 ms
• 240 VDC	• Typ. 75 ms	• Typ. 75 ms
Line length (unshielded)	Max. 100 m	Max. 100 m
Digital outputs		
Number	4	8
Output type	Relay outputs	Relay outputs
Electrical isolation	Yes	Yes
In groups of	1	1
Control of a digital input	Yes	Yes
Continuous current I_{th}	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 5 A per relay	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 5 A per relay
Relay rated voltage	240 VAC/VDC	240 VAC/VDC

4.4 Technical data: LOGO! 24...

	LOGO! DM8 230R	LOGO! DM16 230R
Surge current	Max. 30 A	Max. 30 A
Incandescent lamp load (25000 switching cycles) at: 230/240 VAC 115/120 VAC	1000 W 500 W	1000 W 500 W
Fluorescent tubes with ballast (25000 switching cycles)	10 x 58 W (at 230/240 VAC)	10 x 58 W (at 230/240 VAC)
Fluorescent tubes, conventionally compensated (25000 switching cycles)	1 x 58 W (at 230/240 VAC)	1 x 58 W (at 230/240 VAC)
Fluorescent tubes, uncompensated (25000 switching cycles)	10 x 58 W (at 230/240 VAC)	10 x 58 W (at 230/240 VAC)
Short circuit-proof cos 1	Power protection B16, 600 A	Power protection B16, 600 A
Short circuit-proof cos 0.5 to 0.7	Power protection B16, 900 A	Power protection B16, 900 A
Derating	None; across the entire temperature range	None; across the entire temperature range
Parallel output circuits for power increase	Not permitted	Not permitted
Protection of output relay (if desired)	Max. 16 A, characteristic B16	Max. 16 A, characteristic B16
Line length (unshielded)	Max. 100 m	Max. 100 m
Switching rate		
Mechanical	10 Hz	10 Hz
Ohmic load/lamp load	2 Hz	2 Hz
Inductive load	0.5 Hz	0.5 Hz

Notice: For fluorescent lamps with capacitors, you must consider the technical data of fluorescent lamp ballasts. If the current exceeds the maximum allowed surge current, appropriate contactor relays must switch the fluorescent lamps.

The data was determined with the following devices:

Notice: Output: B300, R300; 5A, 24VDC, G.P.; 5A, 240 VAC, G.P.; 3A, 120VAC, Tungsten.

- Siemens fluorescent tubes 58 W VVG 5LZ 583 3-1 uncompensated.
- Siemens fluorescent tubes 58 W VVG 5LZ 583 3-1 parallel compensated with 7 µF.
- Siemens fluorescent tubes 58 W VVG 5LZ 501 1-1N with ballast.

4.4 Technical data: LOGO! 24...

	LOGO! 24CE LOGO! 24CEo
Power supply	
Input voltage	24 VDC
Permissible range	20.4 VDC to 28.8 VDC
Reverse polarity protection	Yes

	LOGO! 24CE LOGO! 24CEo
Permissible mains frequency	--
Power consumption from 24 VDC	25 mA to 50 mA (no load on digital output) 1.2 A (with max. load on digital output)
Voltage failure buffering	--
Power loss at 24 VDC	0.6 W to 1.2 W
Backup of the real-time clock at 25 °C	Typ. 20 days
Accuracy of the real-time clock	Typ. ± 2 s/day
Digital inputs	
Number	8
Electrical isolation	No
Number of high speed inputs	4 (I3, I4, I5, I6)
Input frequency	<ul style="list-style-type: none"> • Normal input • High speed input
Digital input	24 VDC
Max. continuous permissible voltage	28.8 VDC
Input voltage	L+
Signal 0	< 5 VDC
Signal 1	> 12 VDC
Input current at	
Signal 0	<ul style="list-style-type: none"> < 0.9 mA (I3 to I6) < 0.07 mA (I1, I2, I7, I8)
Signal 1	<ul style="list-style-type: none"> > 2.1 mA (I3 to I6) > 0.18 mA (I1, I2, I7, I8)
Delay time at	
0 to 1	<ul style="list-style-type: none"> • Typ. 1.5 ms < 1.0 ms (I3 to I6)
1 to 0	<ul style="list-style-type: none"> • Typ. 1.5 ms < 1.0 ms (I3 to I6)
Line length (unshielded)	Max. 100 m
Analog inputs	
Number	4 (I1=AI3, I2=AI4, I7=AI1, I8=AI2)
Range	0 VDC to 10 VDC Input impedance 80 k Ω
Cycle time for analog value generation	300 ms
Line length (shielded and twisted)	Max. 10 m
Error limit	$\pm 1.5\%$ at FS
Digital outputs	
Number	4
Output type	Transistor, current-sourcing ¹⁾
Electrical isolation	No
In groups of	--
Control of a digital input	Yes
Output voltage	\leq Supply voltage

4.5 Technical data: LOGO! DM8 24 and LOGO! DM16 24

	LOGO! 24CE LOGO! 24CEo
Output current	Max. 0.3 A per channel
Short circuit-proof and overload-proof	Yes
Short circuit current limitation	Approx. 1 A per channel
Derating	None; across the entire temperature range
Short circuit-proof cos 1	- -
Short circuit-proof cos 0.5 to 0.7	- -
Parallel output circuit for power increase	Not permitted
Protection of output relay (if desired)	- -
Line length (unshielded)	Max. 100 m
Switching rate ²⁾	
Mechanical	- -
Electrical	10 Hz
Ohmic load/lamp load	10 Hz
Inductive load	0.5 Hz

¹⁾ When you switch on LOGO! 24CE/24CEo, LOGO! DM8 24 or LOGO! DM16 24, the CPU sends signal 1 to the digital outputs for about 50 µs. Take this into account, especially when using devices that react to short pulses.

²⁾ The maximum switching rate is only dependent on the switching program's cycle time.

Notice: Output: 24 VDC, 0.3 A, RES./P.D.

4.5 Technical data: LOGO! DM8 24 and LOGO! DM16 24

	LOGO! DM8 24	LOGO! DM16 24
Power supply		
Input voltage	24 VDC	24 VDC
Permissible range	20.4 VDC to 28.8 VDC	20.4 VDC to 28.8 VDC
Reverse polarity protection	Yes	Yes
Permissible mains frequency	- -	- -
Power consumption from 24 VDC	25 mA to 40 mA (no load on digital output) 1.2 A (with max. load on digital output)	25 mA to 50 mA (no load on digital output) 2.4 A (with max. load on digital output)
Power loss at 24 V	0.6 W to 1.0 W	0.6 W to 1.2 W
Digital inputs		
Number	4	8
Electrical isolation	No	No
Number of high speed inputs	0	0
Input frequency		
• Normal input	• Max. 4 Hz	• Max. 4 Hz
• High speed input	• - -	• - -
Digital input	24 VDC	24 VDC

4.5 Technical data: LOGO! DM8 24 and LOGO! DM16 24

	LOGO! DM8 24	LOGO! DM16 24
Max. continuous permissible voltage	28.8 VDC	28.8 VDC
Input voltage	L+	L+
• Signal 0	• < 5 VDC	• < 5 VDC
• Signal 1	• > 12 VDC	• > 12 VDC
Input current at		
• Signal 0	• < 0.88 mA	• < 0.85 mA
• Signal 1	• > 2.1 mA	• > 2 mA
Delay time at		
• 0 to 1	• Typ. 1.5 ms	• Typ. 1.5 ms
• 1 to 0	• Typ. 1.5 ms	• Typ. 1.5 ms
Line length (unshielded)	Max. 100 m	Max. 100 m
Digital outputs		
Number	4	8
Output type	Transistor, current-sourcing ¹⁾	Transistor, current-sourcing ¹⁾
Electrical isolation	No	No
In groups of	--	--
Control of a digital input	Yes	Yes
Output voltage	≤ Supply voltage	≤ Supply voltage
Output current	Max. 0.3 A per channel	Max. 0.3 A per channel
Short circuit-proof and overload-proof	Yes	Yes
Short circuit current limitation	Approx. 1 A per channel	Approx. 1 A per channel
Derating	None; across the entire temperature range	None; across the entire temperature range
Short circuit-proof cos 1	--	--
Short circuit-proof cos 0.5 to 0.7	--	--
Parallel output circuit for power increase	Not permitted	Not permitted
Protection of output relay (if desired)	--	--
Line length (unshielded)	Max. 100 m	Max. 100 m
Switching rate		
Mechanical	--	--
Electrical	10 Hz	10 Hz
Ohmic load/lamp load	10 Hz	10 Hz
Inductive load	0.5 Hz	0.5 Hz

- ¹⁾ When you switch on LOGO! 24CE/24CEo, LOGO! DM8 24 or LOGO! DM16 24, the CPU sends signal 1 to the digital outputs for about 50 µs. Take this into account, especially when using devices that react to short pulses.

Notice:

- Output of LOGO! DM8 24: 24 VDC, 0.3 A, RES./P.D.
- Output of LOGO! DM16 24: 24 VDC, 0.3 A, RES./P.D.; 3W, 24 VDC, Tungsten.

4.6 Technical data: LOGO! 24RC...

	LOGO! 24RCE LOGO! 24RCEo
Power supply	
Input voltage	24 VAC/VDC
Permissible range	20.4 VAC to 26.4 VAC 20.4 VDC to 28.8 VDC
Reverse polarity protection	--
Input frequency	50/60 Hz
Permissible mains frequency	47 Hz to 63 Hz
Power consumption	
<ul style="list-style-type: none"> • 24 VAC • 24 VDC 	<ul style="list-style-type: none"> • 60 mA to 185 mA • 25 mA to 100 mA
Voltage failure buffering	Typ. 5 ms
Power loss	
<ul style="list-style-type: none"> • 24 VAC • 24 VDC 	<ul style="list-style-type: none"> • 1.4 W to 4.4 W • 0.6 W to 2.4 W
Backup of the real-time clock at 25 °C	Typ. 20 days
Accuracy of the real-time clock	Typ. ± 2 s/day
Digital inputs	
Number	8, optional positive voltage or negative voltage
Electrical isolation	No
Number of high speed inputs	0
Input frequency	
<ul style="list-style-type: none"> • Normal input • High speed input 	<ul style="list-style-type: none"> • Max. 4 Hz • --
Digital input	24 VAC/DC, 50/60 Hz
Max. continuous permissible voltage	26.4 VAC 28.8 VDC
Input voltage	L
<ul style="list-style-type: none"> • Signal 0 • Signal 1 	<ul style="list-style-type: none"> • < 5 VAC/VDC • > 12 VAC/VDC
Input current at	
<ul style="list-style-type: none"> • Signal 0 • Signal 1 	<ul style="list-style-type: none"> • < 1.2 mA • > 2.6 mA

	LOGO! 24RCE LOGO! 24RCEo
Delay time at	
• 0 to 1	• Typ. 1.5 ms
• 1 to 0	• Typ. 15 ms
Line length (unshielded)	Max. 100 m
Analog inputs	
Number	--
Range	--
max. Input voltage	--
Digital outputs	
Number	4
Output type	Relay outputs
Electrical isolation	Yes
In groups of	1
Control of a digital input	Yes
Continuous current I_{th}	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 10 A per relay
Relay rated voltage	240 VAC/VDC
Surge current	Max. 30 A
Incandescent lamp load (25000 switching cycles) at	1000 W
Fluorescent tubes with ballast (25000 switching cycles)	10 x 58 W
Fluorescent tubes, conventionally compensated (25000 switching cycles)	1 x 58 W
Fluorescent tubes, uncompensated (25000 switching cycles)	10 x 58 W
Derating	None; across the entire temperature range
Short circuit-proof cos 1	Power protection B16, 600 A
Short circuit-proof cos 0.5 to 0.7	Power protection B16, 900 A
Parallel output circuits for power increase	Not permitted
Protection of output relay (if desired)	Max. 16 A, characteristic B16
Line length (unshielded)	Max. 100 m
Switching rate	
Mechanical	10 Hz
Ohmic load/lamp load	2 Hz
Inductive load	0.5 Hz

Notice: For fluorescent lamps with capacitors, you must consider the technical data of fluorescent lamp ballasts. If the current exceeds the maximum allowed surge current, appropriate contactor relays must switch the fluorescent lamps.

Notice: Output: B300, R300; 8A, 24 VDC, G.P.; 10A, 24 VAC, G.P.; 3A, 120 VAC, Tungsten.

4.7 Technical data: LOGO! DM8 24R and LOGO! DM16 24R

The data was determined with the following devices:

- Siemens fluorescent tubes 58 W VVG 5LZ 583 3-1 uncompensated.
- Siemens fluorescent tubes 58 W VVG 5LZ 583 3-1 parallel compensated with 7 μ F.
- Siemens fluorescent tubes 58 W VVG 5LZ 501 1-1N with ballast.

4.7 Technical data: LOGO! DM8 24R and LOGO! DM16 24R

	LOGO! DM8 24R	LOGO! DM16 24R
Power supply		
Input voltage	24 VAC/VDC	24 VDC
Permissible range	20.4 VAC to 26.4 VAC 20.4 VDC to 28.8 VDC	20.4 VDC to 28.8 VDC
Reverse polarity protection	--	Yes
Input frequency	50/60 Hz	--
Permissible mains frequency	47 Hz to 63 Hz	--
Power consumption		
• 24 VAC	• 40 mA to 110 mA	• --
• 24 VDC	• 15 mA to 50 mA	• 30 mA to 115 mA
Voltage failure buffering	Typ. 5 ms	Typ. 5 ms
Power loss		
• 24 VAC	• 1.0 W to 2.6 W	• --
• 24 VDC	• 0.4 W to 1.2 W	• 0.7 W to 2.8 W
Digital inputs		
Number	4, optional positive voltage or negative voltage	8
Electrical isolation	No	No
Number of high speed inputs	0	0
Input frequency		
• Normal input	• Max. 4 Hz	• Max. 4 Hz
• High speed input	• --	• --
Digital input	24 VAC/DC, 50/60 Hz	24 VDC
Max. continuous permissible voltage	• 26.4 VAC • 28.8 VDC	• -- • 28.8 VDC
Input voltage	L	
• Signal 0	• < 5 VAC/VDC	• < 5 VDC
• Signal 1	• > 12 VAC/VDC	• > 12 VDC
Input current at		
• Signal 0	• < 1.1 mA	• < 0.85 mA
• Signal 1	• > 2.63 mA	• > 2.0 mA

4.7 Technical data: LOGO! DM8 24R and LOGO! DM16 24R

	LOGO! DM8 24R	LOGO! DM16 24R
Delay time at		
• 0 to 1	• Typ. 1.5 ms	• Typ. 1.5 ms
• 1 to 0	• Typ. 15 ms	• Typ. 1.5 ms
Line length (unshielded)	Max. 100 m	Max. 100 m
Digital outputs		
Number	4	8
Output type	Relay outputs	Relay outputs
Electrical isolation	Yes	Yes
In groups of	1	1
Control of a digital input	Yes	Yes
Continuous current I_{th}	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 5 A per relay	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 5 A per relay
Relay rated voltage	240 VAC/VDC	240 VAC/VDC
Surge current	Max. 30 A	Max. 30 A
Incandescent lamp load (25000 switching cycles) at	1000 W	1000 W
Fluorescent tubes with ballast (25000 switching cycles)	10 x 58 W	10 x 58 W
Fluorescent tubes, conventionally compensated (25000 switching cycles)	1 x 58 W	1 x 58 W
Fluorescent tubes, uncompensated (25000 switching cycles)	10 x 58 W	10 x 58 W
Derating	None; across the entire temperature range	None; across the entire temperature range
Short circuit-proof cos 1	Power protection B16, 600 A	Power protection B16, 600 A
Short circuit-proof cos 0.5 to 0.7	Power protection B16, 900 A	Power protection B16, 900 A
Parallel output circuits for power increase	Not permitted	Not permitted
Protection of output relay (if desired)	Max. 16 A, characteristic B16	Max. 16 A, characteristic B16
Line length (unshielded)	Max. 100 m	Max. 100 m
Switching rate		
Mechanical	10 Hz	10 Hz
Ohmic load/lamp load	2 Hz	2 Hz
Inductive load	0.5 Hz	0.5 Hz

Notice: For fluorescent lamps with capacitors, you must consider the technical data of fluorescent lamp ballasts. If the current exceeds the maximum allowed surge current, appropriate contactor relays must switch the fluorescent lamps.

Notice: Output: B300, R300; 5A, 24 VDC, G.P.; 5A, 240 VAC, G.P.; 3A, 120 VAC, Tungsten.

4.8 Technical data: LOGO! 12/24... LOGO! DM8 12/24R

The data was determined with the following devices:

- Siemens fluorescent tubes 58 W VVG 5LZ 583 3-1 uncompensated.
- Siemens fluorescent tubes 58 W VVG 5LZ 583 3-1 parallel compensated with 7 µF.
- Siemens fluorescent tubes 58 W VVG 5LZ 501 1-1N with ballast.

4.8 Technical data: LOGO! 12/24... LOGO! DM8 12/24R

	LOGO! 12/24RCEo LOGO! 12/24RCE	LOGO! DM8 12/24R
Power supply		
Input voltage	12/24 VDC	12/24 VDC
Permissible range	10.8 VDC to 28.8 VDC	10.8 VDC to 28.8 VDC
Reverse polarity protection	Yes	Yes
Power consumption	<ul style="list-style-type: none"> • 12 VDC • 24 VDC 	<ul style="list-style-type: none"> • 20 mA to 90 mA • 15 mA to 50 mA
Voltage failure buffering	<ul style="list-style-type: none"> • 12 VDC • 24 VDC 	<ul style="list-style-type: none"> • Typ. 2 ms • Typ. 5 ms
Power loss	<ul style="list-style-type: none"> • 12 VDC • 24 VDC 	<ul style="list-style-type: none"> • 0.2 W to 1.1 W • 0.4 W to 1.2 W
Backup of the real-time clock at 25 °C	Typ. 20 days	--
Accuracy of the real-time clock	Typ. ± 2 s/day	--
Electrical isolation	No	No
Digital inputs		
Number	8	4
Electrical isolation	No	No
Number of high speed inputs	4 (I3, I4, I5, I6)	0
Input frequency	<ul style="list-style-type: none"> • Normal input • High speed input 	<ul style="list-style-type: none"> • Max. 4 Hz • --
Digital input	12/24 VDC	12/24 VDC
Max. continuous permissible voltage	28.8 VDC	28.8 VDC
Input voltage L+	<ul style="list-style-type: none"> • Signal 0 • Signal 1 	<ul style="list-style-type: none"> • < 5 VDC • > 8.5 VDC

	LOGO! 12/24RCEo LOGO! 12/24RCE	LOGO! DM8 12/24R
Input current at		
• Signal 0	< 0.88 mA (I3 to I6) < 0.07 mA (I1, I2, I7, I8)	< 0.88 mA
• Signal 1	> 1.5 mA (I3 to I6) > 0.12 mA (I1, I2, I7, I8)	> 1.5 mA
Delay time at		
• 0 to 1	• Typ. 1.5 ms < 1.0 ms (I3 to I6)	• Typ. 1.5 ms
• 1 to 0	• Typ. 1.5 ms < 1.0 ms (I3 to I6)	• Typ. 1.5 ms
Line length (unshielded)	Max. 100 m	Max. 100 m
Analog inputs		
Number	4 (I1=AI3, I2=AI4, I7=AI1, I8=AI2)	--
Range	0 VDC to 10 VDC Input impedance 80 kΩ	--
Cycle time for analog value generation	300 ms	--
Line length (shielded and twisted)	Max. 10 m	--
Error limit	± 1.5% at FS	--
Digital outputs		
Number	4	4
Output type	Relay outputs	Relay outputs
Electrical isolation	Yes	Yes
In groups of	1	1
Control of a digital input	Yes	Yes
Continuous current I _{th} (per terminal)	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 10 A per relay	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 5 A per relay
Relay rated voltage	240 VAC/VDC	240 VAC/VDC
Surge current	Max. 30 A	Max. 30 A
Incandescent lamp load (25000 switching cycles) at	1000 W	1000 W
Fluorescent tubes with ballast (25000 switching cycles)	10 x 58 W	10 x 58 W
Fluorescent tubes, conventionally compensated (25000 switching cycles)	1 x 58 W	1 x 58 W
Fluorescent tubes, uncompensated (25000 switching cycles)	10 x 58 W	10 x 58 W
Derating	None; across the entire temperature range	None; across the entire temperature range
Short circuit-proof cos 1	Power protection B16, 600 A	Power protection B16, 600 A
Short circuit-proof cos 0.5 to 0.7	Power protection B16, 900 A	Power protection B16, 900 A
Parallel output circuits for power increase	Not permitted	Not permitted

4.9 Technical data: LOGO! TDE (Text Display with Ethernet interfaces)

	LOGO! 12/24RCEo LOGO! 12/24RCE	LOGO! DM8 12/24R
Protection of output relay (if desired)	Max. 16 A, characteristic B16	Max. 16 A, characteristic B16
Line length (unshielded)	Max. 100 m	Max. 100 m
Switching rate		
Mechanical	10 Hz	10 Hz
Ohmic load/lamp load	2 Hz	2 Hz
Inductive load	0.5 Hz	0.5 Hz

Notice: For fluorescent lamps with capacitors, you must consider the technical data of fluorescent lamp ballasts. If the current exceeds the maximum allowed surge current, appropriate contactor relays must switch the fluorescent lamps.

Notice:

- Output of LOGO! 12/24RCE/RCEo: B300, R300; 8A, 24 VDC, G.P.; 10A, 240 VAC, G.P.; 3A, 120 VAC, Tungsten.
- Output of LOGO! DM8 12/24R: B300, R300; 5A, 24 VDC, G.P.; 5A, 240 VAC, G.P.; 3A, 120 VAC, Tungsten.

The data was determined with the following devices:

- Siemens fluorescent tubes 58 W VVG 5LZ 583 3-1 uncompensated.
- Siemens fluorescent tubes 58 W VVG 5LZ 583 3-1 parallel compensated with 7 µF.
- Siemens fluorescent tubes 58 W VVG 5LZ 501 1-1N with ballast.

4.9 Technical data: LOGO! TDE (Text Display with Ethernet interfaces)

	LOGO! TDE
Mechanical data	
Keyboard	Membrane keypad with 10 keys
Display	FSTN-Graphic Display with 160 x 96 (columns x rows), LED backlight (white/amber/red)
Power supply	
Input voltage	24 VAC/VDC 12 VDC
Permissible range	20.4 VAC to 26.4 VAC 10.2 VDC to 28.8 VDC
Input frequency	50/60 Hz
Permissible mains frequency	47Hz to 63 Hz
Power consumption (Ethernet and white backlight active)	<ul style="list-style-type: none"> • 12 VDC • 24 VDC • 24 VAC <ul style="list-style-type: none"> • Typ. 150 mA • Typ. 75 mA • Typ. 145 mA

4.9 Technical data: LOGO! TDE (Text Display with Ethernet interfaces)

	LOGO! TDE
Degree of protection	
	IP20 for LOGO! TDE excluding front panel IP65 for LOGO! TDE front panel
Enclosure type	Type 4X/12 for LOGO! TDE front panel
Communication port	
Ethernet performance	Two Ethernet interfaces with 10/100 M full/half duplex data transmission rate
Connection distance	Max. 30 m
LCD Display and Backlight	
Backlight lifetime ¹⁾	20,000 hours
Display lifetime ²⁾	50,000 hours
Mounting	
Mounting hole dimensions (WxH)	(119 + 0.5 mm) x (78.5 + 0.5 mm)
Mounting conditions	Mount the LOGO! TDE vertically on a flat surface of an IP 65 or Type 4x/12 enclosure.

¹⁾ The backlight lifetime is when the final brightness is 50% of the original brightness.

²⁾ The display lifetime is calculated under ordinary operating and storage conditions: room temperature (20 ± 8 °C), normal humidity below 65% relative humidity, and not in exposure to direct sunlight.

LOGO! power modules order number

Accessories	Designation	Order number
Power modules	LOGO!POWER 5 V / 3 A	6EP3310-6SB00-0AY0
	LOGO!POWER 5 V / 6.3 A	6EP3311-6SB00-0AY0
	LOGO!POWER 12 V / 0.9 A	6EP3320-6SB00-0AY0
	LOGO!POWER 12 V / 1.9 A	6EP3321-6SB00-0AY0
	LOGO!POWER 12 V / 4.5 A	6EP3322-6SB00-0AY0
	LOGO!POWER 15 V / 1.9 A	6EP3321-6SB10-0AY0
	LOGO!POWER 15 V / 4 A	6EP3322-6SB10-0AY0
	LOGO!POWER 24 V / 0.6 A	6EP3330-6SB00-0AY0
	LOGO!POWER 24 V / 1.3 A	6EP3331-6SB00-0AY0
	LOGO!POWER 24 V / 2.5 A	6EP3332-6SB00-0AY0
	LOGO!POWER 24 V / 4 A	6EP3333-6SB00-0AY0
	LOGO!POWER EX 24 V / 4 A	6EP3333-6SC00-0AY0

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